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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,757	09/23/2003	Christopher J. Carter	57801US004	2554
32692	7590	09/16/2004		
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
			EXAMINER MARCHESCHI, MICHAEL A	
			ART UNIT 1755	PAPER NUMBER

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/668,757	Applicant(s) CARTER ET AL.	
	Examiner Michael A Marcheschi	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/12/04, 3/1/04</u> . | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 1755

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 10-22 and 26-33 are rejected under 35 U.S.C. 103(a) as obvious over WO 97/36713 in view of Friedlander et al.

The WO reference teaches in the abstract, page 2, lines 21-page 4, line 20 and claims 1 and 4-7, a UV curable formulation, wherein the formulation contains 5-50 volume percent of filler that is substantially transparent to UV light. The filler has a size of 1-60 microns. The formulation is used to make coated abrasives.

Friedlander et al. teach in column 6, lines 20-28 that aluminosilicates are transparent to UV light.

In view of the WO reference teaching that the formulation is used to make coated abrasives (see claim 7), this suggests an abrasive article which comprises an abrasive and a UV curable formulation, wherein the formulation contains a filler that is substantially transparent to UV light. Although the reference might disclose a **preferred** filler, as is well known, **"A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments"** See *In re Van Marter*, 144 USPQ 421. Since claim 1 of the references only defines that the filler be substantially transparent to UV light, it is the examiners position that any filler which meets this requirement can be used and is therefore obvious to the

Art Unit: 1755

skilled artisan. In other words, the disclosure in claim 1 of the reference (this claim implies that any material, as long as it is transparent to UV light can be used) provides the proper motivation to use UV transparent material as the filler. Since aluminosilicates are known to meet this criteria, as shown by Friedlander et al., its use as the filler according to the WO reference is obvious. The examiner acknowledges that the primary reference teaches the amount in terms of volume percent but it is the examiners position that when calculated in terms of weight percent, the amounts reads on the claimed amount in the absence of any evidence showing the contrary. Finally, claim 7 of the reference states that "a layer" comprises the formulation and the broad interpretation of "a layer" in a coated abrasive broadly reads on a size coat. With respect to the method of making the coated abrasive, the claimed method of making a coated abrasive is conventional and thus the recitation of a coated abrasive as defined by the reference suggests this method absent evidence to the contrary. With respect to the method of abrading a surface, the claimed method of abrading a surface is conventional and thus the recitation of a coated abrasive as defined by the reference also suggests this method absent evidence to the contrary.

Claims 1-6, 10-14 and 33 are rejected under 35 U.S.C. 103(a) as obvious over Gaeta et al. (070) in view of WO 97/36713 alone or further in view of Friedlander et al.

Gaeta et al. teach in the abstract, column 1, lines 18-57 and the claims, a UV curable formulation, wherein the formulation contains 5-60 weight percent of filler that is substantially transparent to UV light (clay (i.e., aluminosilicate) is listed as a possible filler). The formulation is added to the backing in the manufacture of coated abrasives.

In view of the primary teaching that the formulation is used to make coated abrasives, this suggests an abrasive article which comprises an abrasive and a UV curable formulation, wherein the formulation contains a filler that is substantially transparent to UV light (i.e. clay). Even though the formulation is added to the backing in the manufacture of coated abrasives, the final abrasive article will contain this formulation, thus still reading on the claimed abrasive article. The primary reference teaches that clays can be used as the filler and since clay is an aluminosilicate it reads on the claimed filler. In the alternative, it is the examiners position that it would have been obvious to use an aluminosilicate material as the filler because this material is known to be UV transparent, as shown by Friedlander et al., and the substitution of one UV transparent material for another is obvious to the skilled artisan and well within the level of ordinary skill in the art. With respect to the size of the filler, the WO reference teaches a conventional filler size for use in UV formulations and therefore this size is obvious for the filler size in the primary reference. With respect to the method of abrading a surface, the claimed method of abrading a surface is conventional and thus the recitation of a coated abrasive as defined by the reference also suggests this method absent evidence to the contrary. Finally, with respect to the shape, this limitation is obvious for the following reasons. Although the reference does not literally define the shape, this does not preclude the material of the reference from having the characteristic. It is therefore the examiners position that since the reference fails to mention any specific shape (criticality), this (the absence of any such limitations) constitutes a broad teaching of shapes, as long as the final filler is used. In view of this, it can be reasonably interpreted that the claimed shape is encompassed by the broad teachings according to the reference in the absence of any evidence showing the contrary (criticality).

Claims 1-6, 10-22 and 26-33 are rejected under 35 U.S.C. 103(a) as obvious over Zador et al. in view of Friedlander et al.

Zador et al. teach in the abstract, column 56, line 64-column 7, line 35 and the claims (specifically claim 1), a UV curable formulation, wherein the formulation contains a sufficient amount of a filler that is transparent to UV light and has a hardness at least as great as silica. The filler has a size of about 15 microns. The formulation (size coat) is used in conjunction with abrasive particles to make coated abrasive.

Although the reference might disclose a preferred filler, as is well known, "**A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments**" See *In re Van Marter*, 144 USPQ 421. Since column 7, lines 6-8 states that other fillers can be used as long as they meet the characteristics recited (transparent to UV light and at least as hard as silica) and claim 1 does not specify a filler, it is the examiners position that any filler which meets this requirement can be used and is therefore obvious to the skilled artisan. In other words, the disclosure in column 7 and in claim 1 of the reference (this claim implies that any material, as long as it is transparent to UV light can be used) provides the proper motivation to use UV transparent material as the filler. Since aluminosilicates are known to meet this criteria, as shown by Friedlander et al., its use as the filler according to Zador et al. is obvious. With respect to the hardness criteria, it is the examiners position that since alumina is harder than silica, the combination of alumina and silica (aluminosilicate) will also be harder than silica thus meeting the second criteria absent evidence to the contrary. The examiner acknowledges that the primary reference fails to literally define any amount for the filler but this

Art Unit: 1755

reference states that the filler is used in a sufficient amount and it is the examiners position that one skilled in the art would have known the amount required to make the final coated abrasive. The claimed amount would have proved to be conventional and thus is obvious to the skilled artisan. In other words, one skilled in the art would have known by routine experimentation and optimization the desired concentration needed to produce the desired abrasive character of the reference abrasive article. In this rejection, the shape of the filler is not seen to provide any weight to the composition absent evidence to the contrary. In addition, although the reference does not literally define the shape, this does not preclude the material of the reference from having the characteristic. It is therefore the examiners position that since the reference fails to mention any specific shape (criticality), this (the absence of any such limitations) constitutes a broad teaching of shapes, as long as the final filler is used. In view of this, it can be reasonably interpreted that the claimed shape is encompassed by the broad teachings according to the reference in the absence of any evidence showing the contrary (criticality).

Claims 1-33 are rejected under 35 U.S.C. 103(a) as obvious over EP 654323.

The EP reference teaches in the abstract, page 14, lines 1-25 and the claims, a UV curable formulation, wherein the formulation contains a sufficient amount of a filler (aluminosilicate and mica can be used). The filler has a size within the claimed range. The formulation (size coat) is used in conjunction with abrasive particles to make coated abrasive.

The reference teaches the claimed articles with the exception of any literal amount for the filler being defined. The examiner acknowledges that the primary reference fails to literally define any amount for the filler but this reference states that the filler is used in a sufficient

amount and will depend on the desired properties and final use of the article and it is the examiners position that one skilled in the art would have known the amount required to make the final coated abrasive. The claimed amount would have proved to be conventional and thus is obvious to the skilled artisan. In other words, one skilled in the art would have known by routine experimentation and optimization the desired concentration needed to produce the desired abrasive character of the reference abrasive article. In this rejection, the shape of the filler is not seen to provide any weight to the composition absent evidence to the contrary. In addition, although the reference does not literally define the shape, this does not preclude the material of the reference from having the characteristic. It is therefore the examiners position that since the reference fails to mention any specific shape (criticality), this (the absence of any such limitations) constitutes a broad teaching of shapes, as long as the final filler is used. In view of this, it can be reasonably interpreted that the claimed shape is encompassed by the broad teachings according to the reference in the absence of any evidence showing the contrary (criticality). Finally, with respect to the combination of mica and the aluminosilicate, it is prima facie obvious to combine two or more materials disclosed by the prior art to form a third material (combination of fillers) that is to be used for the same purpose. In re Kerkhoven 205 USPQ 1069.

The Friedlander et al. reference has only been applied to show that aluminosilicates fillers are UV transparent.

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976)".

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

Applicants are reminded that up to includes zero.

Art Unit: 1755

The additional references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

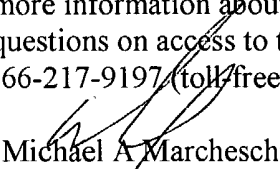
Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if appropriate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

9/04
MM



Michael A Marcheschi
Primary Examiner
Art Unit 1755